

**Material Safety Data Sheet**

May be used to comply with  
 OSHA's Hazard Communication Standard,  
 29 CFR 1910.1200. Standard must be  
 consulted for specific requirements.

**U.S. Department of Labor**

Occupational Safety and Health Administration  
 (Non-Mandatory Form)  
 Form Approved  
 OMB No. 1218-0072

**IDENTITY** (As Used on Label and List)

Wet or Dry Silver-Zinc Battery

Note: Blank spaces are not permitted. If any item is not applicable, or no  
 information is available, the space must be marked to indicate that.

**Section I***Manufacturer's Name*

Yardney Technical Products, Inc.

*Emergency Telephone Number*

(800) 255-3924

*Address (Number, Street, City, State, and Zip Code)*

82 Mechanic Street

*Telephone Number for Information*

(860) 599-1100

Pawcatuck, CT 06379

*Date Prepared*

9/17/2001

*Signature of Preparer (optional)***Section II - Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Potassium Hydroxide (Electrolyte)	2 MG/M <sup>3</sup> (C)			
Zinc (as fume)	5 MG/M <sup>3</sup>			
Silver (as dust or fume)	.01 MG/M <sup>3</sup>			
Mercuric Oxide (fume)	.05 MG/M <sup>3</sup>			

(Under normal conditions of use or service this battery does not expose the user to toxic fumes. Prior to use care must be taken filling a dry cell with electrolyte in order to avoid a severe chemical burn to expose tissue. Skin and eye protection is strongly recommended for the cell/battery fill operation.)

This product contains the following EPCRA Section 313 chemicals: Mercury, Silver, & Zinc Compounds.

**Section III - Physical/Chemical Characteristics**

<i>Boiling Point</i>	NA	<i>Specific Gravity (H<sub>2</sub>O = 1)</i>	NA
<i>Vapor Pressure (mm Hg.)</i>	NA	<i>Melting Point</i>	NA
<i>Vapor Density (AIR = 1)</i>	NA	<i>Evaporation Rate (Butyl Acetate = 1)</i>	NA
<i>Solubility in Water</i>	NA		
<i>Appearance and Odor</i>	No Odor		

**Section IV - Fire and Explosion Hazard Data**

<i>Flash Point (Method Used)</i>	<i>Flammable Limits</i>	<i>LEL</i>	<i>UEL</i>
NA	NA	NA	NA

*Extinguishing Media*

Dry Chemical Extinguisher

*Special Fire Fighting Procedures*

Avoid breathing fumes, wear self contained breathing apparatus

*Unusual Fire and Explosion Hazards*

Intense heat and acrid smoke from burning metal and plastic components

## Section V - Reactivity Data

Stability Normally Stable	Unstable	NA	Conditions to Avoid Short circuiting positive and negative terminals.
	Stable	NA	

### Incompatibility (Materials to Avoid)

Acids, Solvents

### Hazardous Decomposition or Byproducts

Mercuric oxide fumes, hydrogen gas

Hazardous Polymerization	May Occur	NA	Conditions to Avoid NA
	Will Not Occur	NA	

## Section VI - Health Hazard Data

Route(s) of Entry Inhalation?	Skin?	Ingestion?
X	X	X

### Health Hazards (Acute and Chronic)

Potassium Hydroxide is corrosive to skin and eyes. Mercuric Oxide bio accumulates in human tissues. Silver bio accumulates in human tissue. Zinc bio accumulates in human tissue. Zinc fumes can cause respiratory distress.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	No	No

### Signs and Symptoms of Exposure

To Potassium Hydroxide: Skin & eye irritation. To Silver: Argyria. To Mercuric Oxide: Loss of memory, tremors. To Zinc: Metal fume fever.

### Medical Conditions

Generally Aggravated by Expos: NA

### Emergency and First Aid Procedures

Remove injured personnel from area immediately. Flush eyes and skin with copious amounts of water for Potassium Hydroxide involvement and seek medical attention immediately.

## Section VII - Precautions for Safe Handling and Use

### Steps to Be Taken in Case Material is Released or Spilled

Contain Potassium Hydroxide, ventilate the area. Neutralize the Potassium Hydroxide with boric acid. Do not flush to sanitary sewer, collect all spillage and debris for proper disposal.

### Waste Disposal Method

Cells and batteries contain silver and should be recycled in accordance with local, state, and federal regulations.

### Precautions to Be Taken in Handling and Storage

Avoid short circuiting terminals of wet cells and batteries. Avoid exposure to intense heat or fire.

### Other Precautions

Wet batteries are regulated. Proper shipping name - Batteries Wet, filled with Alkali, Hazard Class 8, UN2795,

PG III

## Section VIII - Control Measures

### Respiratory Protection (Specific Type)

NA

Ventilation	Local Exhaust	Special
	Yes	
	Mechanical (General)	Other
	Per ACGIH Handbook Recommendation	
Protective Gloves	Gloves	Eye Protection
		Goggles

### Other Protective Clothing or Equipment

NA

### Work Hygienic Practices

Wash thoroughly after working with AgZn Batteries.

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